

Amendments to the Claims

This listing of the claims will replace all prior versions and listings of the claims in the application.

Listing of Claims:

1. (Currently amended) A nasal delivery device for delivering substance to a nasal airway of a subject, comprising:

a plurality of interface units attached to a support, each interface unit comprising (i) at least one nosepiece unit for fitting to a respective nostril of a subject and comprising a nozzle from which substance is in use delivered, and (ii) at least one delivery unit comprising a substance supply unit for delivering substance to the nozzle of the at least one nosepiece unit; and

~~an actuation unit to which the interface units are successively attached for actuating the at least one delivery unit of each respective interface unit, the actuation unit comprising an advance mechanism configured to automatically or semi-automatically advance each interface unit in turn to a position with the actuation unit, whereby the at least one delivery unit is in a position to be actuated to deliver substance to the nozzle.~~

2. (Previously presented) The delivery device of claim 1, wherein each interface unit comprises a disposable unit.

3. (Previously presented) The delivery device of claim 1, wherein each interface unit comprises a single integral unit.

4. (Previously presented) The delivery device of claim 1, wherein each interface unit is packaged in protective packaging.

5. (Previously presented) The delivery device of claim 1, wherein the support comprises a belt.

6. (Original) The delivery device of claim 5, wherein the actuation unit is configured successively to provide the interface units thereto through use of the belt as a guide.

7. (Previously presented) The delivery device of claim 1, wherein the substance supply unit comprises a substance pump unit for delivering substance, the substance pump unit comprising a chamber, which comprises substance and a piston member which is movable in the chamber to deliver a flow of substance from the chamber.

8. (Original) The delivery device of claim 7, wherein the substance comprises a liquid.

9. (Original) The delivery device of claim 7, wherein the substance comprises a powder.

10. (Previously presented) The delivery device of claim 1, wherein each interface unit comprises a mouthpiece into which the subject in use exhales.

11. (Currently amended) The delivery device of claim 10, wherein the mouthpiece is fluidly connected to the at least one nosepiece unit to provide an air flow therethrough on exhalation by [[a]] the subject into the mouthpiece.

12. (Previously presented) The delivery device of claim 1, wherein the at least one delivery unit comprises a gas supply unit for supplying a gas flow through the at least one nosepiece unit.

13. (Previously presented) The delivery device of claim 12, wherein the gas supply unit comprises a gas pump unit comprising a cylinder and a piston member which is movable in the cylinder to deliver a gas flow through the at least one nosepiece unit.

14. (Previously presented) The delivery device of claim 12, wherein the at least one delivery unit is configured such that the gas supply unit initiates supply of a gas flow prior to actuation of the substance supply unit to deliver substance.

15. (Currently amended) The delivery device of claim 1, wherein the actuation unit ~~includes~~ comprises a gas supply unit for supplying a gas flow through the at least one nosepiece unit.

16. (Original) The delivery device of claim 15, wherein the actuation unit is configured such that the gas supply unit initiates supply of a gas flow prior to actuation of the substance supply unit to deliver substance.

17. (Original) The delivery device of claim 1, wherein the at least one delivery unit is actuated in response to exhalation by the subject.

18. (Currently amended) The delivery device of claim 17, wherein the actuation unit ~~includes~~ comprises a detection unit for detecting exhalation by the subject, at least one drive unit for actuating the at least one delivery unit, and a control unit for actuating the at least one drive unit in response to detecting exhalation by the subject.

19. (Currently amended) The delivery device of claim 18, wherein each interface unit comprises a mouthpiece into which the subject in use exhales, the detection unit ~~includes~~ comprises a pressure sensor for detecting a pressure in the mouthpiece, and the control unit is configured to actuate the at least one drive unit in response to detection of a predetermined pressure by the detection unit.

20. (Currently amended) The delivery device of claim 18, wherein each interface unit includes comprises a mouthpiece into which the subject in use exhales, the detection unit includes comprises a flow sensor for detecting a flow rate through the mouthpiece, and the control unit is configured to actuate the at least one drive unit in response to detection of a predetermined flow rate by the detection unit.

21. (Currently amended) The delivery device of claim 17, wherein each interface unit includes comprises a mouthpiece into which the subject in use exhales, the actuation unit includes comprises at least one drive unit for actuating the at least one delivery unit, and a trigger mechanism for actuating the at least one drive unit in response to exhalation by the subject into the mouthpiece.

22. (Original) The delivery device of claim 21, wherein the trigger mechanism is configured to actuate the at least one drive unit in response to generation of a predetermined pressure in the mouthpiece.

23. (Original) The delivery device of claim 21, wherein the trigger mechanism is configured to actuate the at least one drive unit in response to detection of a predetermined flow rate through the mouthpiece.

24. (Currently amended) The delivery device of claim 1, wherein each interface unit includes comprises first and second nosepiece units for fitting to respective nostrils of the subject, and first and second delivery units, each including comprising a substance supply unit for delivering substance through the respective nosepiece unit.

25. (Original) The delivery device of claim 24, wherein the actuation unit is configured to actuate the first and second delivery units in succession such that substance is first delivered into one nasal cavity and subsequently into the other nasal cavity.

86. (Currently Amended) A nasal delivery device for delivering substance to a nasal airway of a subject, comprising:

a disposable interface unit, comprising at least one nosepiece unit for fitting to a respective nostril of a subject, a nozzle from which substance is in use delivered, a mouthpiece into which the subject in use exhales, and at least one delivery unit comprising a substance supply unit for delivering substance to the nozzle of the at least one nosepiece unit; and

an actuation unit for actuating the at least one delivery unit of the interface unit in response to exhalation by the subject into the mouthpiece.

87. (Previously presented) The delivery device of claim 86, wherein the interface unit is a single integral unit.

88. (Previously presented) The delivery device of claim 86, wherein the interface unit is packaged in protective packaging.

89. (Currently amended) A nasal delivery device for delivering substance to a nasal airway of a subject, comprising:

a disposable interface unit, comprising (i) first and second nosepiece units for fitting to respective nostrils of a subject, each nosepiece unit comprising a nozzle from which substance is in use delivered, and (ii) first and second delivery units, each delivery unit comprising a substance supply unit for delivering substance to the nozzle of the respective nosepiece unit; and
an actuation unit for actuating the delivery units of the interface unit in response to exhalation by the subject.

90. (Previously presented) The delivery device of claim 89, wherein the actuation unit is configured to actuate the first and second delivery units in succession such that substance is first delivered into one nasal cavity and subsequently into the other nasal cavity.

91. (New) A nasal delivery device for delivering substance to a nasal airway of a subject, comprising:

a plurality of interface units attached to a belt, each interface unit comprising (i) at least one nosepiece unit for fitting to a respective nostril of a subject and comprising a nozzle from which substance is in use delivered, and (ii) at least one delivery unit comprising a substance supply unit for delivering substance to the nozzle of the at least one nosepiece unit; and

an actuation unit to which the interface units are successively positioned for actuating the at least one delivery unit of each respective interface unit, wherein the actuation unit is configured to provide the interface units successively thereto through use of the belt as a guide.

92. (New) A nasal delivery device for delivering substance to a nasal airway of a subject, comprising:

a plurality of interface units attached to a support, each interface unit comprising (i) at least one nosepiece unit for fitting to a respective nostril of a subject and comprising a nozzle from which substance is in use delivered, (ii) at least one delivery unit comprising a substance supply unit for delivering substance to the nozzle of the at least one nosepiece unit, and (iii) a mouthpiece into which the subject in use exhales; and

an actuation unit to which the interface units are successively positioned for actuating the at least one delivery unit of each respective interface unit.

93. (New) The delivery device of claim 92, wherein the mouthpiece is fluidly connected to the at least one nosepiece unit to provide an air flow therethrough on exhalation by the subject into the mouthpiece.

94. (New) A nasal delivery device for delivering substance to a nasal airway of a subject, comprising:

a plurality of interface units attached to a support, each interface unit comprising (i) at least one nosepiece unit for fitting to a respective nostril of a subject and comprising a nozzle from which substance is in use delivered, and (ii) at least one delivery unit comprising a substance supply unit for delivering substance to the nozzle of the at least one nosepiece unit; and

an actuation unit to which the interface units are successively positioned for actuating the at least one delivery unit of each respective interface unit;

wherein the at least one delivery unit is actuated in response to exhalation by the subject.

95. (New) The delivery device of claim 94, wherein the actuation unit comprises a detection unit for detecting exhalation by the subject, at least one drive unit for actuating the at least one delivery unit, and a control unit for actuating the at least one drive unit in response to detecting exhalation by the subject.

96. (New) The delivery device of claim 95, wherein each interface unit comprises a mouthpiece into which the subject in use exhales, the detection unit comprises a pressure sensor for detecting a pressure in the mouthpiece, and the control unit is configured to actuate the at least one drive unit in response to detection of a predetermined pressure by the detection unit.

97. (New) The delivery device of claim 95, wherein each interface unit comprises a mouthpiece into which the subject in use exhales, the detection unit comprises a flow sensor for detecting a flow rate through the mouthpiece, and the control unit is configured to actuate the at least one drive unit in response to detection of a predetermined flow rate by the detection unit.

98. (New) The delivery device of claim 94, wherein each interface unit comprises a mouthpiece into which the subject in use exhales, the actuation unit comprises at least one drive unit for actuating the at least one delivery unit, and a trigger mechanism for actuating the at least one drive unit in response to exhalation by the subject into the mouthpiece.

99. (New) The delivery device of claim 98, wherein the trigger mechanism is configured to actuate the at least one drive unit in response to generation of a predetermined pressure in the mouthpiece.

100. (New) The delivery device of claim 98, wherein the trigger mechanism is configured to actuate the at least one drive unit in response to detection of a predetermined flow rate through the mouthpiece.

101. (New) A nasal delivery device for delivering substance to a nasal airway of a subject, comprising:

a plurality of interface units attached to a support, each interface unit comprising (i) first and second nosepiece units for fitting to respective nostrils of the subject, each nosepiece unit comprising a nozzle from which substance is in use delivered, and (ii) first and second delivery units, each comprising a substance supply unit for delivering substance through the respective nosepiece unit; and

an actuation unit to which the interface units are successively attached for actuating the first and second delivery units in succession such that substance is first delivered into one nasal cavity and subsequently into the other nasal cavity.

102. (New) The delivery device of any one of claims 91, 92, 94 and 101, wherein each interface unit comprises a disposable unit.

103. (New) The delivery device of any one of claims 91, 92, 94 and 101, wherein each interface unit comprises a single integral unit.

104. (New) The delivery device of any one of claims 91, 92, 94 and 101, wherein the substance supply unit comprises a substance pump unit for delivering substance, the substance pump unit comprising a chamber, which comprises substance and a piston member which is movable in the chamber to deliver a flow of substance from the chamber.

105. (New) The delivery device of claim 104, wherein the substance comprises a liquid.

106. (New) The delivery device of claim 104, wherein the substance comprises a powder.

107. (New) The delivery device of any one of claims 91, 94 and 101, wherein each interface unit comprises a mouthpiece into which the subject in use exhales.

108. (New) The delivery device of claim 107, wherein the mouthpiece is fluidly connected to the at least one nosepiece unit to provide an air flow therethrough on exhalation by the subject into the mouthpiece.

109. (New) The delivery device of any one of claims 91, 92, 94 and 101, wherein the at least one delivery unit comprises a gas supply unit for supplying a gas flow through the at least one nosepiece unit.

110. (New) The delivery device of claim 109, wherein the gas supply unit comprises a gas pump unit comprising a cylinder and a piston member which is movable in the cylinder to deliver a gas flow through the at least one nosepiece unit.

111. (New) The delivery device of claim 109, wherein the at least one delivery unit is configured such that the gas supply unit initiates supply of a gas flow prior to actuation of the substance supply unit to deliver substance.

112. (New) The delivery device of any one of claims 91, 92, 94 and 101, wherein the actuation unit comprises a gas supply unit for supplying a gas flow through the at least one nosepiece unit.

113. (New) The delivery device of claim 112, wherein the actuation unit is configured such that the gas supply unit initiates supply of a gas flow prior to actuation of the substance supply unit to deliver substance.

114. (New) The delivery device of any one of claims 91 or 101, wherein the at least one delivery unit is actuated in response to exhalation by the subject.

115. (New) The delivery device of claim 114, wherein the actuation unit comprises a detection unit for detecting exhalation by the subject, at least one drive unit for actuating the at least one delivery unit, and a control unit for actuating the at least one drive unit in response to detecting exhalation by the subject.

116. (New) The delivery device of claim 115, wherein each interface unit comprises a mouthpiece into which the subject in use exhales, the detection unit comprises a pressure sensor for detecting a pressure in the mouthpiece, and the control unit is configured to actuate the at least one drive unit in response to detection of a predetermined pressure by the detection unit.

117. (New) The delivery device of claim 115, wherein each interface unit comprises a mouthpiece into which the subject in use exhales, the detection unit comprises a flow sensor for detecting a flow rate through the mouthpiece, and the control unit is configured to actuate the at least one drive unit in response to detection of a predetermined flow rate by the detection unit.

118. (New) The delivery device of claim 114, wherein each interface unit comprises a mouthpiece into which the subject in use exhales, the actuation unit comprises at least one drive unit for actuating the at least one delivery unit, and a trigger mechanism for actuating the at least one drive unit in response to exhalation by the subject into the mouthpiece.

119. (New) The delivery device of claim 118, wherein the trigger mechanism is configured to actuate the at least one drive unit in response to generation of a predetermined pressure in the mouthpiece.

120. (New) The delivery device of claim 118, wherein the trigger mechanism is configured to actuate the at least one drive unit in response to detection of a predeterminable flow rate through the mouthpiece.

121. (New) The delivery device of any one of claims 91, 92 and 94, wherein each interface unit comprises first and second nosepiece units for fitting to respective nostrils of the subject, and first and second delivery units, each comprising a substance supply unit for delivering substance through the respective nosepiece unit.

122. (New) The delivery device of claim 121, wherein the actuation unit is configured to actuate the first and second delivery units in succession such that substance is first delivered into one nasal cavity and subsequently into the other nasal cavity.